

Initial country report: ITALY

The situation in Italy with respect to requirements in regulations and subsidy schemes is briefly described and then followed by a list of actions proposed to make “European co-ordination” of these requirements.

Background/status

During the project details on the requirements in Italian regulations and subsidy schemes related to solar thermal products will be elaborated, but to have an overview, a brief description of the most important elements is given here below.

Regulations

Building regulations (General):

- In Italy, it is difficult to install solar system both on historical building and on buildings in landscape protected areas. The extension of these areas is quite wide and every city or even small town has certain area reserved as the historical zone.
- In order to install a system, one has to apply first to the municipality; if they agree, they have to ask the final opinion of the Protection of Cultural and Architectural Heritage, operating at regional level. It is true that the final permission is not easy still we see several examples of such cases. In case of applications using thermosiphonic systems municipalities asked for boiler with the same colour as the roof covering, under-roof boilers, on even hiding boilers in “fake chimneys”.
- In order to obtain maximum efficiency, all those Regions providing financial incentives, it is recommended that the installation on the roof with flat surface, must be South oriented with more or less at 10-20° whereas roof with inclined surface, the above-mentioned angle of orientation must be equal to that of inclination of the roof.
- Some “good” Regional Governments are paving the way for an easier development of solar thermal; for instance, Toscana Region has just passed a special Energy Law thus requiring no special permission for installation of solar thermal plants below 20 m².
- Several small municipalities, following the example of Barcelona “Solar Ordinance”, are introducing solar thermal systems for domestic hot water as a mandatory measure in local building regulations.

Requirements related to the energy saving in buildings using solar thermal systems: Following is a brief description of technical as well as financial norms relevant to the solar thermal systems and air-conditioning of buildings along with different financial norms at both national and regional levels.

Technical normative relevant to solar systems.

- There exist a government decree from Industry Ministry dated 02/April/1998 with clear instructions that for any solar collector to be sold in the national market, same must be tested for technical parameters such like efficiency, pressure drop and overpressure.

- In addition, as on today, a series of initiatives are in progress especially at both the national and regional level for the installation of solar systems for different uses such as, sanitary water heating, swimming-pool heating and heating of buildings with contribution of 30% of the total system cost. The above mentioned contribution could be availed both by public sectors (municipalities, school, hospital, etc.) and private sector. However, to avail such contributions, Environmental Ministry and the Regional Government, in Italy, has set-forth specific technical characteristics of the system that needs to be satisfied.
- In case of new construction or public and private buildings with repairing (in accordance to art. 3 (2a) of DPR n°. 412 of dated August 26, 1993) it is obligatory to provide provision for the installation of a solar thermal plant and their connection to both individual and the network.
- In case of public buildings or a new construction for public use, in accordance with the DPR n°. 412 of dated August 26, 1993, it is obligatory to install a solar thermal plant for the production of sanitary hot water. The plant must be designed to cover at least 50% of the thermal energy consumed annually to produce sanitary hot water.

In particular, the above-mentioned specific requirements are:

- to calculate yearly thermal performance
- characteristics of the collectors and the systems with respect to the safety that needs to be satisfied in accordance with standards EN 12975-1-2 and EN 12976-1-2.
- obligation to use collectors and the systems duly tested as per EN standard by accredited laboratories only.
- A few years ago while deciding for the Regional and national programmes for the incentive, in view of the market, in Italy, yet extremely limited and with the presence of so many small companies, it was considered appropriate that each tender must ask component with strict technical characteristics. So in view of the decree from Industry Ministry of dated 02/April/1998 it was necessary that till December 31, 2003, collector must be tested for technical parameters such like efficiency, pressure drop and over- pressure. Subsequently, it was decided that till Dec. 2004, each collector to be tested as per norms EN 12975 and EN 12976. Moreover it was foreseen that by Dec. 2005, each manufacturer to be sold his product must be certified as per ISO 9000. At that time the target was to get each collector to be qualified as Solar Keymark by the year 2006. Presently, though all the Regions ask the test report as EN 12975- 12976 but still are flexible to ISO 9000, as most of the companies, in Italy are still not accredited as per such quality standard.
- use of thermal insulating material in accordance with the law n° 10 dated 9.1.1991 in the pipeline.
- So far installation in the private sector at the Regional level with financial support of nearly 30-50%, installation of a monitoring system for a solar plant with surface area more than 20 mq, is obligatory.
- For installation in the public sector at the national level (financed fully by the Environment Ministry), it is necessary that the plant produces granted energy according the set target, as well as it is obligatory to install system monitoring system to calculate the amount of solar energy useful. Energy Saving for heating of buildings.

Energy Saving for heating of buildings

- So far energy consumption for heating of building is concerned, the same is regulated by both Law n° 10 dated 9.1.1991 by relative DPR n° 412 dated 26.8.1993 and law n° 192 dated 19 august 2005 in accordance with European directive on buildings 2002/91/CE. Rules set therein define different climatic zones, classification of building as per their uses,

maximum values fixed for ambient temperature, average global seasonal efficiency, introduction of energy requirement conventional, FEP, requirement of primary energy for winter heating expressed in KWh/m²year of net useful surface of the building. The procedure for the calculation of indicative indices of consumption that must be inferior to the limited values reported in the above-mentioned decree depending upon the climatic zone and shape factor of the building S/V are also presented. Law 10/91 is mandatory for all public buildings that must satisfy the primary energy requirement of winter heating through possible use of renewable resources. This obligation is applicable in cases with PBT (pay back time) of less than 8 or 10 years respectively for the municipalities with population of below and above 50.000. From this point of view, it is worthwhile to notice an initiative by the environmental organization "Kyoto Club". This initiative, named "Operazione 10", aims at raising the awareness of the public sector towards solar thermal, by sending letters to designers in charge of specific projects, informing them about the real contents of the Law 10/91 and about its "compulsory nature".

- Procedure relevant to the application of 2002/91CE of dated 4/01/2001 on building certification, are also in progress. The Directive has been partially applied with a Decree passed in August 2005, but the application laws are still missing; regarding solar thermal, this Decree does not foresee any mandatory installation of plants, but it states that all new buildings should be "ready" for installing solar thermal plants; it means that hot and cold water piping should be made available for a potential future installation of solar thermal.
- In addition other conventional regulations (Fire, wind and snow load, sanitary, safety, etc.) for solar collectors, needs to be satisfied a law no. 46/90 called "Conformity Certificate". That is applicable to thermal plant and to the solar systems as well. The above law state that the thermal is to be installed by only those installer who are duly on the roll of registered craftsmen. This certificate, to be issued by the installer (on the completion of the installation) is to be presented to the municipality while requesting certificate for the suitability of the building for living.

Subsidies

In Italy, following types of subsidies are available for the diffusion of solar thermal.

1. Ministry of Environment contribute for all solar thermal installation in the public sectors a financial contribution of 30 % of the total system cost along with the total monitoring cost.
 2. Financial incentives available at the national level **for private installation** allow tax deduction of nearly 41 % of the total cost of the plant with equal fiscal tax deduction distributed over a period of five years. In addition, sale tax percentage is of 10% against the normal value of 20%.
 3. Most of the regional government, in Italy, also offer financial incentives of 30% of the total system cost to both the public and private sectors but it is to be noted that this contribution for the public sector can't be accumulated with the above-mentioned national contribution while the same is not true for the private installations. That means that in the private sectors the total financial contribution is sum 2 and 3.
- The main problems with these subsidy are:
 - for the national tender directed to the public sector: poor awareness and interest from the public sector; only half of the funds have been exploited after 4 years of open tender; at the end of 2005, the tender will be closed and the remaining funds will not be available anymore.
 - for the regional tenders:
 - difference in the requirements (both technical and bureaucratic) from Region to Region
 - poor funds available, usually "sold out" in a few days!

- not correct evaluation of the real plant costs (in some region); for instance, sometimes a subsidy of 30% on the overall plant cost is foreseen, but this overall cost is estimated to be about 600-700 €/m², well below the real turn-key cost; therefore the real subsidy share is well below 30% and sometimes the cost of submitting the proposal could equal the economic savings due to the regional contribution.
- poor technical knowledge of public personnel evaluating the submitted projects

Testing

The Solar Testing Laboratory at ENEA Research Centre Trisaia is the only laboratory, in Italy, accredited to perform testing of solar thermal collectors and factory made systems according to ISO and EN standards.

Certification

- There is no National Certification Scheme for solar thermal products in Italy at the moment. Actually one certification body is taking necessary action to obtain the certification from SINCERT (Italian accreditation body)
- There is no national energy labelling scheme for hot water tanks
- Assolterm, the Italian Solar Thermal Industry Association is promoting a voluntary mark for producers and distributors of solar thermal collectors, named Solar Pass and already operating. It is also promoting a certification scheme for installers of solar thermal systems, named “Solar Pass Installa”; in order to get this certification, the installer companies should satisfy the requirements of Law 46/90 and attend a specific training course for installers of solar thermal plants.

Insurance

- The installation of a solar thermal system usually does not affect house insurance

ACTIONS NEEDED

General

- Co-ordination of the Italian requirements in certification, regulations and subsidy schemes with European standards and Solar Keymark certification
- Implementation of European directives concerning solar thermals (energy performance of buildings, energy labelling etc)

Regulation

- Application of the already operating laws, such as Law 10/91
- The calculation of energy loads and gains for new buildings has to include the option of installing a solar thermal system
- Implementation of standard procedures for calculating the influence of solar thermal systems on the energy performance of the buildings
- Standardization of permitting procedures

Subsidies

- Subsidies easy to get and tenders opened for the whole year
- Make use of the European standards and the Solar Keymark in the national subsidy schemes

Testing

- Promote the use of EN testing to the Italian manufacturers (communication actions)

Certification

- Promote the use of the National Certification Scheme and of the Solar Keymark by assisting the Italian manufacturers and by adapting existing/futures subsidy requirements to these certification schemes
- Promotion of the national certification scheme for installers
- It is to be noted that in Italy while it is obligatory for all the electric operator with new installation to produce this year 3,05 % of their total electric energy needs using renewable energy resources (Green Certificate). In terms of energy and economic value each Green certificate is equal to 50 MWh with net value of nearly 5400 Euro.
- The same concept is valid for energy saving in term of tep saved. In fact all the gas distributing companies must take necessary step for energy saving using different way accepted from Industry Ministry, one of this is the solar thermal installation (White Certificate). There aren't sure value because like the green certification that depends upon the quantities offered, whereas in white certificate for this year the energy fixed is 0,4 MTEp and the cost estimated is nearly 2,3 c€/KWh thermal (1 tep =4550 Kwt is evaluated= 100 €).

Others:

professional training of public authorities representatives, designers and installers is needed. It is in this context that already some programmes have been planned, for example, in Sicily, ENEA in collaboration with UE (in the framework of SICENEA) is organising training courses designed specifically for all the engineers working in Public undertakings. The purpose is to provide advanced technical knowledge and development in the sector so as to achieve maximum diffusion of solar thermal technology. The duration of such courses is of 2-3 months and will be organised at the provincial level throughout Sicily.